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Luca Boiero

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EXAMINER

NGUYEN, NGA X

ART UNIT

PAPER NUMBER

3662

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/560,893	Applicant(s) BOIERO ET AL.	
	Examiner NGA X. NGUYEN	Art Unit 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 41,43-66,79,81 and 82 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 41,43-66,79,81 and 82 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claim 41, 43, 45, 47- 51, 54-57, 60-64, 79, 81-82 are rejected under 35 U.S.C. 102(b) as being anticipated by Sheynblat (6061018).

With regard to claim 41, 55, 79, Sheynblat discloses:

- A mobile terminal is adapted to receive satellite signals from satellite-based system, and to be covered by at least one cell of the cellular communication system (see column 4, lines 18-45).
- Determining at least approximately the coordinates of the mobile terminal based on both satellite signals and information related to the cellular communication system (see column 6, lines 17-64)
 - o Deriving an estimate of the altitude coordinate from information related to an altitude of one or more network elements in the cellular communication system (see column 6, lines 28-36)
 - o Determining at least one approximate search area using the estimate of the altitude coordinate and information provided by the satellite based system (see column 9, lines 10-38)
 - o Identifying the coordinate of the mobile terminal in the at least one approximate search area (see column 9, lines 39-51).

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With regard to claim 43 & 57, Sheynblat teaches:

- Identifying, in the cellular communication system, at least one base station proximate to the mobile terminal, the proximate base station having an associated altitude coordinate (see column 9, lines 39-50).
- Using the altitude coordinate of the proximate base station to estimate the altitude coordinate (see column 9, lines 45-48).

With regard to claim 44-45, Sheynblat teaches:

- Identifying the cellular communication system, a plurality of base stations adjacent to the mobile terminal, each of the base station having a respective altitude coordinates (see column 8, lines 57-66)
- Determining an average value for the respective altitude coordinates over the adjacent base stations. (see column 9, lines 1-5)
- Using the average value as the estimate of the altitude coordinates (see column 9, lines 5-9).

With regard to claim 47, 60, Sheynblat teaches positioning coordinates are determine in an iterative manner by subsequent location steps, a new refined estimate of the altitude coordinate being used at each step in the iterative process (see column 9-10, lines 65-14).

With regard to claim 48-49, 61-62, Sheynblat teaches providing an approximate 2D positioning of the terminal on the basis of the information related to the cellular communication system and then estimate the altitude coordinate (see column 9, lines 32-50).

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With regard to claim 50, 63, Sheynblat teaches defining the search area for position coordinate in the form of a hyperbolic set of point, then determining the positioning coordinates within the hyperbolic set of point (see column 10, lines 15-19).

With regard to claim 51, 64, Sheynblat teaches determining a 1st and 2nd set of values for location coordinate on the basis of related to the cellular communication system and satellite signals (see column 9-10, lines 52-14).

With regard to claim 54, Shyenblat teaches determining the approximately coordinate based on satellites received from less than three SATs (see column 1, lines 58-63).

With regard to claim 81, Sheynblat teaches:

- A mobile terminal is adapted to receive satellite signals from satellite-based system, and to be covered by at least one cell of the cellular communication system (see column 4, lines 18-45).
- Determining at least approximately the coordinates of the mobile terminal based on both satellite signals and information related to the cellular communication system (see column 6, lines 17-64).
- Determining whether a geographical database associating bi-dimensional positioning coordinates with corresponding altitude coordinate available. If not, estimate the altitude coordinates from information related to an altitude of one or network elements in the cellular communications system (see column 9, lines 10-42).
- Deriving, in response to determining the geographical data base is not available, estimate of the altitude coordinate from information related to an altitude of one

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or more network elements in the cellular communication system (see column 9, lines 41-42-51).

With regard to claim 56 & 82, Sheynblat teaches:

- Providing a geographical data base comprising data base items associated with a given set of bi-dimensional positioning coordinates of the mobile terminal in the area corresponding to values for the altitude coordinate (see column 9, lines 52-67).
- Accessing the geographical data base via the mobile terminal whereby the positioning coordinates, as at least approximately determined by the mobile terminal based on the satellite signals (see column 10, lines 14-29).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 44, 46 & 52-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheynblat as applied to claim 41 above, and further in view of Riley (20030125046).

With regard to claim 46, Riley teaches:

- Performing power measurement for each of the adjacent base station for the mobile terminal (see page 8, paragraph 85)

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- Determining the average value as a weighted average of the respective altitude coordinate values (see page 8, paragraph 88).

It would have been obvious to modify Sheynblat by incorporating the teaching of Riley's system to perform power measurements to determine the average value of the altitude coordinate so as the mobile terminal's location information is reported accuracy and quickly.

With regard to claim 44, 52-53, 58-59, 65-66, Riley teaches computing the distance between the mobile stations from known positions and compare the distance to the pseudorange measurements to the threshold indicative of the degree of accuracy (see page 7-8, paragraph 83) which meets the claims.

Response to Amendment

3. Applicant's arguments with respect to claims 41- have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NGA X. NGUYEN whose telephone number is (571)272-5217. The examiner can normally be reached on 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TARCZA H. THOMAS can be reached on (571) 272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NGA X NGUYEN
Examiner
Art Unit 3662

NXN

/Thomas H. Tarcza/
Supervisory Patent Examiner, Art Unit 3662